UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,324	09/17/2003	Nicola Telecco	ATM-228	7924

3897 7590 12/16/2005

SCHNECK & SCHNECK
P.O. BOX 2-E
SAN JOSE, CA 95109-0005

EXAMINER	
LAXTON, GARY L	
ART UNIT	**PAPER NUMBER**
2838	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/666,324	TELECCO, NICOLA	
	Examiner	Art Unit	
	Gary L. Laxton	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *16-20* is/are withdrawn from consideration.

5)☒ Claim(s) *5-7* is/are allowed.

6)☒ Claim(s) *1-3 and 8-15* is/are rejected.

7)☒ Claim(s) *4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 November 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/21/05 have been fully considered but they are not persuasive.

Applicant first argues that Pasotti only shows low current loads driven by low current transistors.

First of all, the applicant has not provided any evidence that Pasotti powers low current loads with low current transistors. There is no disclosure in Pasotti revealing the applicant's assertion of only low current transistors being used. The examiner contends that Pasotti uses both "high current" and "low current" transistors since the applicant has not provided any definition in the claims setting standards for what exactly is meant by "high" and "low'. In col. 3 lines 38-41 & col. 4 lines 49-52, Pasotti expressly discloses sizing the transistors to suit the draw by the particular load. Therefore, as far as the examiner is concerned, when a low current load is used, Pasotti discloses using the appropriately sized transistor for low current load draw. And conversely, when a high current load is used, Pasotti discloses using an appropriately sized transistor for high current load draw.

Second, applicant argues that Pasotti does not disclose the applicant's claimed high current regulation means for providing a coarse level of voltage regulation to a common supply voltage delivered to a high current load. Load L1 through load Ln or any combination of them or any one of them certainly could be the high current load. Thus,

according to Pasotti, MR1-MRn would be sized to provide the proper draw for such a load or loads. Therefore, Pasotti does indeed disclose a high current regulation means for providing a coarse level of voltage regulation to a common supply voltage delivered to a high current load.

Third, applicant argues that Pasotti does not disclose an output level of the applicant's claimed feedback regulation means influences the high current regulation means. This argument also bears no merit. As stated in previous office actions, Pasotti discloses an output level of the feedback regulation means (14 and 11) influences the high current regulation means (MR1-MRn) since the output of the feedback means (15) is connected to the gates of the transistors (MR1-MRn); thereby controlling them.

Also, as a side note, the applicant has not defined such vague limitations as "more regulated", "less regulated", "course", "fine", "high" or "low" and as a result the examiner can give no patentable weight to such terms without specific claimed definitions.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Pasotti (US 6,232,753) .

Claim 1; Pasotti et al disclose a voltage regulator (figure 2) for supplying a low current load with a regulated voltage supply and a high current load with a regulated voltage supply comprising: regulation means (MR-MRn) for providing a level of voltage regulation to a common supply voltage (HV) delivered to a high current load (SL1-SLn), the regulation means including a control means; and feedback regulation means (11, 14, 15) for providing a level of regulation to the common supply voltage (HV) delivered to a low current load (SL1-SLn), the feedback means having an output line (15) connected to the control means of the regulation means whereby the output level of the feedback means influences the regulation means.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) in view of Stevens (US 4,942,312).

Pasotti et al disclose the claimed invention in regards to claim 1 supra, except for a depletion NMOS.

Stevens teaches that it is known to use NMOS depletion transistors in regulator circuits. It is also known and obvious to one having ordinary skill in the art that it is possible to substitute one type switch for another.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pasotti et al to include depletion type NMOS transistors in order to produce a stable output voltage as taught by Stevens.

6. Claims 3, 8, 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) in view of Tanase (US 6,462,526).

Claim 3; Pasotti et al disclose the claimed invention in regards to claim 1 supra, except for the feedback regulation means comprises a bandgap regulator feeding the comparator.

Tanase teach that bandgap regulators are used for supplying a reference voltage.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a bandgap regulator in Pasotti et al to provide the reference voltage input to the comparator.

Claims 8, 11, 12, 14 and 15; Pasotti et al disclose a voltage regulator comprising: a first regulator stage having a voltage reference circuit (Vref), the reference circuit having a first leg feeding a comparator (11) as a first input and a voltage divider (14) connected to the common supply with a tap feeding back to the comparator in a second leg as a second input, the comparator having an output operating a first current driver device (MR) connected to the common supply (HV) in feedback relation to the comparator through the voltage divider, the first current driver device having a first output line carrying a first output voltage and a first current; a second current driver device (MR1-MRn) connected to the common supply voltage (HV) and operable as a voltage clamp in response to the first output voltage, thereby acting as a second regulator stage, in parallel with the first regulator stage, the second current driver device having a

second output line carrying a second output voltage, less than the common supply voltage, and a second current; a first load connected to the first output voltage and to the voltage divider of the first regulator stage; a second load connected to the second output voltage of the second regulator stage and to the voltage divider; whereby the first and second regulator stages stabilize voltage variations in the first and second loads.

However, Pasotti et al do not disclose a reference circuit connected to a common supply voltage.

Tanase teach a reference circuit for supplying a reference voltage, wherein the reference circuit is supplied operating power from a supply voltage (Vin) in order to operate the reference circuit.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a reference circuit connected to a common supply voltage in order to operate the reference circuit.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) and Tanase (US 6,462,526) in view of Yokomizo et al (US 6,400,211).

Pasotti et al and Tanase disclose the claimed invention in regards to claim 8 supra, except for the load circuits being oscillators or charge pump capacitors.

Yokomizo et al teach regulating voltage to a charge pump comprising capacitors (C1, C2) and providing power to an oscillator circuit (13).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pasotti et al to include a load being a charge pump and a load be oscillators in order to provide power to the devices as taught by Yokomizo et al.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) in view of Tanase (US 6,462,526) and further in view of Nakajima (US 6,686,728) and Stevens (US 4,4942,312).

Pasotti et al and Tanase disclose the claimed invention in regards to claim 8 supra, except for a depletion NMOS transistor and the depletion NMOS having a gate connected to the first output line of the first current driver device.

Nakajima teaches driving a second transistor (Q) from the output of a first transistor (TR2) in order to constitute a base drive transistor circuit for driving the second transistor (Q).

Furthermore, Stevens teaches using depletion type NMOS transistors in a regulator circuit. It is also known and obvious to one having ordinary skill in the art that it is possible to substitute one type switch for another.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pasotti et al and Tanase to include a depletion type NMOS transistor having a gate connected to the first output line of a first current driver device in order to constitute a base drive transistor circuit for driving the second transistor to produce a stable output voltage as taught by Nakajima and Stevens.

Allowable Subject Matter

9. Claims 5-7 are still allowed.

10. Claim 4 is still objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: the reasons for indicating allowable subject matter remain the same as stated in the previous office action dated 4/06/05.

Conclusion

12. This is a request for continued examination of applicant's earlier Application No. 10/666,324. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Easthom Karl can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary L. Laxton
Primary Examiner
Art Unit 2838

12/09/2005